

# Understanding Reading First

## What We Know, What We Don't, and What's Next

● By Corinne Herlihy, James Kemple, Howard Bloom, Pei Zhu, and Gordon Berlin

In 2008, the Institute of Education Sciences (IES) at the U.S. Department of Education published research findings on Reading First, a centerpiece of the No Child Left Behind (NCLB) Act that provided \$1 billion per year to help all children read at or above grade level by the end of third grade.<sup>1</sup> The findings were interpreted by many in the media and the policy community as saying that Reading First did not work. Although the story is more nuanced than that, funding for the program was eliminated in the fiscal 2009 spending bill that was signed by President Obama in March. NCLB is up for reauthorization in 2009. In the meantime, the American Recovery and Reinvestment Act provides tens of billions of dollars to states and localities for spending on education, meaning that federal, state, and local policymakers face critical choices today about how best to use this money to support early reading instruction and achievement.

This policy brief describes what Reading First was, sets the context in which it was implemented and the studies were conducted, summarizes the findings, and discusses the implications both for federal and state policy and for future research in the teaching of early reading.

The bottom line is that Reading First did increase the provision of professional development for teachers and of reading coaches and supports for struggling readers in schools that received funding. The program did influence how teachers taught — in ways that are aligned with scientifically based reading research (as summarized by the National Reading Panel in 2000), a key goal of the legislation.

Unfortunately, these improvements did not produce higher reading comprehension scores on average among students in the Reading First schools. Nonetheless, there is some suggestive evidence that Reading First funding may have improved comprehension in schools in which the effects on teacher instruction were larger.

Reading First's lack of impact on overall reading comprehension test scores may be related to two connected issues. First, the type of reading instruction that was promoted by Reading First was already in wide use when the program came on line in 2002 — in part due to the influence of the National Reading Panel recommendations and an earlier National Research Council report, *Preventing Reading Difficulties in Young Children*, as well as the availability of funding from the Reading Excellence Act of 1998, the predecessor to Reading First. As a result, the IES studies found that teachers in schools that did not receive Reading First funding — that is, the schools that formed the comparison group in the evaluations — also spent the majority of their class time for reading focusing on the core components of scientifically based reading instruction recommended by the National Reading Panel and supported by Reading First.

Second, the increase that Reading First produced in instructional time devoted to the core elements of scientifically based reading instruction — about 7-10 additional minutes a day on top of the 50 minutes already devoted to teaching in this way — may have been too small, at least on average, to induce improvements in students' reading comprehension. Intriguingly, however, Reading First *did*

appear to produce improvements in reading comprehension in schools where it produced larger increases in the recommended instructional practice. These schools tended to be ones that (1) served more educationally disadvantaged children, (2) spent less time using scientifically based methods of instruction in the absence of Reading First funding, and (3) received larger grants. But because the impact study was not explicitly designed to answer questions about the magnitude and determinants of variation in program effects, these findings are only exploratory and suggestive.

### WHAT WAS READING FIRST?

Reading First was a \$1-billion-a-year federal funding stream designed to support the instructional practices that were identified by the National Reading Panel's systematic review of rigorous reading research as effective, evidence-based strategies for teaching reading. In 2000, the National Reading Panel identified five topics for instruction that are essential to early-grade reading development: phonemic awareness (manipulation of individual speech sounds), phonics (mapping sounds to print), fluency (improved speed and accuracy in oral reading), vocabulary, and text comprehension. Reading First is the largest federal funding initiative ever undertaken with the explicit goal of increasing classroom teachers' use of research-based instructional practices in reading. It did so through support for teacher professional development, curricula, materials, coaching, assessments, and supplemental interventions. The administrative guidelines governing Reading First provided clear direction to prospective state, district, and school grantees about materials and activities for which funding could be used:

- *Reading curricula and materials* that focus on the five essential components of reading instruction as identified by the National Reading Panel and specified in the Reading First legislation

- *Professional development and coaching* for teachers on how to use scientifically based reading practices and how to work with struggling readers
- *Diagnosis and prevention* of early reading difficulties through student screening, interventions for struggling readers, and monitoring of student progress

Reading First grants were first made to states between July 2002 and September 2003. By April 2007, states had awarded subgrants to 1,809 school districts, which had provided funds to 5,880 schools. Districts and schools with the greatest demonstrated need, in terms of students' reading proficiency and poverty status, were intended to have the highest funding priority. In addition to grants for individual schools, states could reserve up to 20 percent of their Reading First funds to support staff development and reading assessments, among other activities, for all high-need schools.

### WHAT WAS THE CONTEXT IN WHICH READING FIRST WAS IMPLEMENTED?

NCLB became law in 2001, bringing a new federal focus to early reading and increased pressure to spend more instructional time on reading in order to improve test scores. However, by the time Reading First was implemented, the principles of scientifically based reading instruction, identified by the National Reading Panel in 2000 and the National Research Council in 1998, were increasingly being incorporated in the curricula offered by the major publishers, in teacher training programs, and in school districts across the country. The Reading Excellence Act of 1998 had also promoted these principles, although it was less strict than Reading First in ensuring that states and districts adhered to them.

The overall diffusion of the National Reading Panel principles was evident during the implementation of Reading First. By the 2006-2007 school year, more than 75 percent of *non-Reading First* Title I schools were using reading curricula and textbooks aligned with

these principles, and more than 60 percent of teachers in these schools participated in professional development that focused on the five components of reading instruction, according to a nationally representative survey.<sup>2</sup> In fact, non-Reading First schools — schools that did not receive Reading First funding and that served as the comparison or control schools in the Reading First impact study described below — averaged approximately 50 minutes of daily instruction in the five components of reading instruction out of a typical 90-minute period, which became increasingly common during this same period. In short, Reading First provided an influx of funding to help schools serving educationally disadvantaged students move further in implementing scientifically based reading instruction. While this was a new and large funding source, the practices it sought to support were widely, if unevenly, used across the country.

### WHAT WAS THE READING FIRST IMPACT STUDY?

The Reading First impact study sought to measure the effects of the new federal funding stream on teachers' instructional practice and students' reading comprehension test scores. It is important to recognize, however, that the study was not designed as an evaluation of the National Reading Panel recommendations. Rather, it examined whether access to Reading First funding (and the terms of use that governed its acceptance) changed instructional practices and improved students' reading skills beyond what would have happened without the funding. It is not a test of scientifically based reading instruction against other forms of instruction.

The study examined the impact of the Reading First funding in 17 school districts across 12 states and in one statewide program.<sup>3</sup> Although the study schools are not a national probability sample, they share many characteristics with the national population of schools receiving Reading First grants. The evaluation compared outcomes

for a group of 125 schools that were selected to receive a Reading First funding grant with a group of 123 schools from the same districts that did not receive a grant. The study employed a regression discontinuity design that took advantage of the fact that school districts and states rank ordered schools on a set of independent criteria to choose those that would qualify for funding. The study compared those schools that barely qualified for Reading First funding with those that just missed the cutoff for available funding. Other than a randomized controlled trial, regression discontinuity is the strongest method for estimating program impacts. While Reading First was targeted to low-performing schools and *all* the schools included in the impact study were low-performing,<sup>4</sup> a limitation of the regression discontinuity analysis is that it does not include (by design) the most disadvantaged schools receiving Reading First funding.

Reading First schools in the study sample received their grant awards between April 2003 and August 2004, and the study followed these schools and their comparison counterparts over the subsequent three years: 2004-2005, 2005-2006, and 2006-2007. Reading First grants to schools in the study sample provided an additional \$512 per student per year in the first two years of the study. (For comparison, the national average for total spending per public school student in 2005-2006 was \$9,138.)

It is important to remember that the non-Reading First schools could benefit from the 20 percent of Reading First funding that states were allowed to use to support staff development and technical assistance districtwide. In addition, districts getting Reading First grants could use up to 3.5 percent of their funding for planning and administration that could affect all district schools. For example, in some states and districts, teachers in non-Reading First schools were also invited to professional development activities funded by the program.

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## WHAT ARE THE OVERALL FINDINGS?

The ultimate goal of Reading First was to improve the reading achievement of kindergarteners through third-graders. But a necessary intermediate step, according to the theory of the program, is to change the way teachers teach, to make them more likely to use practices that had been shown by research to improve reading achievement. At the start of the study, it was not at all clear that a federal funding stream could reach into local school districts, schools, and classrooms to change teacher behavior.

Like most evaluations, the Reading First impact study presents findings for the overall sample and then for subgroups of schools and students. These results suggest that:

- **On average, Reading First increased the amount of time that teachers spent on the five essential components of reading instruction required by the program.**

As explained above, Reading First had to increase the time spent on the five components over and above the substantial amount that was already occurring in non-Reading First schools. In non-Reading First schools, first-grade teachers already spent an average of approximately 52 minutes of reading classes (typically about 90 minutes per day) focusing on the five essential components of reading instruction, and second-grade teachers spent approximately 49 minutes per class on these components. Reading First increased this instructional time by approximately 7 minutes per class for first-grade teachers and 10 minutes per class for second-grade teachers. This reflects an additional 35 minutes per week for first-grade teachers and 50 minutes per week for second-grade teachers over and above the time they would otherwise have spent on these components of reading instruction.<sup>5</sup>

- **On average, Reading First did not meaningfully improve students' reading comprehension test scores.**

While the average reading comprehension scores of students at the first- and second-grade levels in Reading First schools are slightly higher than those of students in non-Reading First schools, the differences in the average scores are not statistically significant, signaling that they may have occurred by chance. At the third-grade level, there is no difference in comprehension scores.

## DO THESE FINDINGS MEAN THAT FEDERAL FUNDING CAN'T IMPROVE READING ACHIEVEMENT?

Looking at the overall results, one should conclude that Reading First as implemented did not achieve its ultimate objective of improving the reading comprehension of educationally disadvantaged students above and beyond what would have happened anyway. But what does the study suggest in the way of future directions for research, policy, and practice? Is there anything in the findings to indicate that federal funding could make a difference under some conditions? What does the study say about what school districts should do in the teaching of reading with the billions of dollars in new funding in the American Recovery and Reinvestment Act?

In exploratory analyses, the impact study looked at two subgroups of sites (that were defined before the analysis began): those that received their Reading First grants in 2003 ("early-award sites") and those that received them in 2004 ("late-award sites"). Early-award sites generally had more experience with scientifically based reading instruction and federal funding aimed at supporting these practices through the Reading Excellence Act. As a result, they may have been better positioned to write strong proposals and to deploy their funding into a more accommodating environment. Late-award sites were not able to write successful proposals in time to receive program funding when it was first allocated to early-award sites. However, on average, these late-award sites eventually

received somewhat larger grants than the early-award sites, and students in these schools tended to have somewhat lower reading test scores to start with.

- **In late-award sites, Reading First produced consistently positive effects on teachers' instructional practice and on students' reading comprehension test scores.**

For grades 1 and 2 in late-award sites, Reading First produced positive and statistically significant increases in teachers' instruction in the five components. Gains in students' reading comprehension are positive in grades 1-3 but statistically significant only in grade 2. By contrast, early-award sites' program impacts are not statistically significant; impacts on instruction are positive but small in magnitude, while impacts on student reading comprehension are negative in two of three grades.<sup>6</sup>

- **Compared with early-award sites, the late-award sites tended to receive larger Reading First grants, serve lower-achieving students, and, but for the Reading First funding, would have spent less time on the five components (as demonstrated by what happened in the non-Reading First schools). Importantly, however, the study design did not provide a reliable means of determining what might cause differences in Reading First impacts.**

The average Reading First grant was higher in late-award sites than early-award sites (\$574 versus \$432 per student per year). Reading comprehension test scores were lower for non-Reading First schools in the late-award sites,<sup>7</sup> suggesting that these sites were serving more educationally disadvantaged students who were further behind. Finally, teachers in comparison schools in the late-award sites spent less time than teachers in early-award comparison schools using the instructional practices identified by the National Reading Panel.<sup>8</sup> These differences, plus others not measured, could have produced the impact differences observed, but, because the study

was not designed to determine the cause of this variation, the results should be considered suggestive. Further analyses are under way that will more carefully and reliably explore this association.

Findings from the Reading First impact study show that federal resources can be used effectively to increase the availability of professional development and other support resources and to influence teachers' instructional practice in ways that are consistent with scientifically based reading research. Although there are open questions about whether this change in practice can improve students' reading comprehension on a broad scale, there is suggestive evidence that reading comprehension can improve under circumstances where the resources have larger effects on teachers' instructional practice.

### DID READING FIRST HAVE AN IMPACT ON STUDENTS' WORD DECODING SKILLS?

The National Reading Panel's strongest and most robust recommendations focused on decoding — the teaching of alphabetic skills (phonemic awareness and phonics) and reading fluency. As students learn to read, they master a series of skills from sounding out letters, to stringing those sounds into properly pronounced words, to fluently reading sentences, to comprehending the meaning of the words and sentences they read. While all of these skills are taught in the early grades, there tends to be a greater focus on teaching decoding in grades one and two, and greater focus on comprehension in later grades. In fact, the research base for the National Reading Panel's recommendations about teaching comprehension comes largely from studies of grades three and up.

The Reading First impact study focused its measurement on comprehension skills in grades one through three. To learn whether Reading First funding helped students develop precursor skills even if it did not produce an overall effect on comprehension, the Test of

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Silent Word Reading Fluency (TOSWRF), which is designed to measure the ability to recognize printed words accurately and efficiently, was administered to a sample of first-grade students in the Reading First and non-Reading First schools in the final year of data collection, when most programs had been in operation for three or four years. But because the TOSWRF and the SAT 10 test of comprehension were administered at different times in some districts, slightly different samples of students took the two tests.

- **Reading First's impact on decoding skills of first-grade students is virtually the same as its impact on reading comprehension for those students. The statistical significance of these impact estimates is sensitive to the sample of students who took one or both of these assessments.**

The similarity in findings on the two tests underscores two points. First, the decoding test results do not appear to add new information. The program's impact on decoding (0.17 in effect size) is virtually the same as its impact on comprehension (0.15 in effect size), at least for the first-grade cohort that was tested in decoding during the last year of the study. Further, performance on the two tests is highly correlated for the students who took both tests.<sup>9</sup> Second, the overall impact on decoding is statistically significant, but the overall impact on reading comprehension falls just shy of statistical significance. While one should have somewhat more confidence in the decoding finding, the best evidence suggests that, for the students who took these two tests, Reading First's effects on decoding and comprehension are not distinguishable.

### WHAT ARE THE IMPLICATIONS OF THESE FINDINGS?

Reading First was designed to influence reading instruction and student reading achievement both directly and indirectly. On the one hand, Reading First provided grants directly to individual schools. With a median national grant of about \$500 per pupil in 2004-2005, Reading

First grantees had access to a nontrivial source of additional support to improve reading teaching and learning. The Reading First impact study was designed explicitly to assess this direct impact of the program.

On the other hand, Reading First could also indirectly affect reading instruction and achievement through its funding of state- and district-level activities — or by stimulating school districts to adopt uniform reading curricula, professional development activities, and assessments across both Reading First and non-Reading First schools. The IES-funded studies were not equipped to assess these indirect effects. In particular, they were not able to measure how much of these supports and practices were already in place before Reading First grants were made.<sup>10</sup> Reading First is likely to have been responsible for at least some diffusion of these practices into the broader environment of the districts and schools across the country.

And the studies *do* show that the principles and practices grounded in scientifically based reading research, as documented by the National Reading Panel, were embedded in *both* Reading First schools and non-Reading First schools. Teachers in both sets of schools spent a considerable amount of class time focusing on the five essential components of reading identified by the National Reading Panel.

Even in this environment, Reading First significantly increased the amount of time that teachers in Reading First schools focused on the five core components of reading instruction. At the same time, it had no impact on student reading comprehension test scores on average, and schools receiving Reading First grants were still well short of the program's ultimate goal of ensuring that all students were reading at grade level by the end of third grade. For example, more than half of third-grade students in the study sample's Reading First schools were performing below grade level three years into the initiative.

*continued on page 8*

## NOTES

<sup>1</sup> Gamse et al. (2008a, 2008b); U.S. Department of Education (2008). Four of the authors of this brief (Herlihy, Kemple, Bloom, and Zhu) were members of the impact analysis team for the Reading First Impact Study.

<sup>2</sup> U.S. Department of Education (2008).

<sup>3</sup> For simplicity's sake, the remainder of the brief uses the term districts for the study sites, since in the statewide system the state was operating schools as a district would.

<sup>4</sup> According to a survey of principals administered in the spring of 2005, 50.2 percent of students in Reading First schools in the impact study sample were reading at or above grade level. For a nationally representative sample of Reading First schools, 46.9 percent of students were reading at or above grade level.

<sup>5</sup> The study did not collect data on teacher practice for third-grade teachers.

<sup>6</sup> Differences between early- and late-award sites in their estimates of impacts on reading comprehension are statistically significant for grade two, but not for grade one or grade three. Differences between early- and late-award sites in their estimates of impacts on instructional time in the five dimensions are not statistically significant.

<sup>7</sup> In non-Reading First schools in *late-award* sites, students' reading comprehension scores were in the 39th, 33rd, and 34th percentiles in grades 1, 2, and 3, respectively. In non-Reading First schools in *early-award* sites, students' reading comprehension scores were in the 44th, 45th, and 46th percentiles in grades 1, 2, and 3, respectively.

<sup>8</sup> On average, teachers in non-Reading First schools in early-award sites spent about 14 or 15 minutes more per day using instructional practices identified by the National Reading Panel than teachers in non-Reading First schools in late-award sites.

<sup>9</sup> The findings for decoding and reading comprehension reported in the impact study are based on slightly different samples of first-grade students in 2007.

<sup>10</sup> The implementation study did provide evidence, however, that Title I funding for Reading First and non-Reading First school was comparable – that is, that districts did not redirect Title I funds to schools that did not receive Reading First grants.

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## Understanding Reading First *continued from page 6*

MDRC POLICY BRIEF

### SO, WHAT'S NEXT?

Even as new analyses may shed more light on the relationship between impacts on instruction in the five principles of reading instruction and effects on student achievement, the current state of knowledge tells us:

- The findings of the National Reading Panel, which reflect the synthesis of hundreds of high-quality studies, remain the best evidence available about how to teach reading effectively to young children.
- It is possible to change teachers' instructional practices — specifically, to increase the amount of time teachers spent

using the five components of effective reading instruction.

- Improving student reading comprehension is difficult and perhaps requires a *greater* change in teacher practice than Reading First was able to create on average — or a *different* approach to comprehension instruction, especially in the earliest grades.

If the different results for early-award and late-award sites are real, that might suggest a strategy of targeting interventions to schools with lower levels of student achievement and in these places where teachers are spending less time using the recommended instructional practices.

Additional work is needed to refute or confirm suggestive evidence on targeting implied by the different results for early- and late-award sites. In addition, from both a research and a practice perspective, while results from the National Assessment of Educational Progress (NAEP) for fourth-graders suggest that the reading skills of American children are improving gradually, too many children remain far below the proficiency levels needed in the 21<sup>st</sup>-century economy. Thus, additional research experimentation is needed on a wide range of structural and instructional reforms that might bring us closer to the goal of ensuring that all young children learn to read well by the end of third grade.